

Notice of Allowability

Application No.

09/630,356

Examiner

Daniel A. Nolan

Applicant(s)

YAMADA, MASAYUKI

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 01 April 2004.
2. ☒ The allowed claim(s) is/are 2,3,5,11,15,17,23 and 49-51.
3. ☒ The drawings filed on 01 August 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Art Unit: 2654

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Chris L. Holm on 19 April and 13 May 2004.

The application has been amended as follows:

IN THE CLAIMS:

Replace claim ²/~~3~~ as follows:

-- A speech information processing method of generating a speech segment dictionary for holding a plurality of encoded speech segments, comprising:

71 a construction step of constructing quantization code books using speech segments stored in a speech database;

an encoding step of encoding the speech segments stored in the speech database using the quantization code books that were constructed using the speech segments stored in the speech database; and

76 F

a storage step of storing in the speech segment dictionary, the encoded speech segments that were encoded in said encoding step. - -

Replace claim ⁵~~15~~ as follows:

- - A speech information processing method of synthesizing speech by using a speech segment dictionary for holding a plurality of encoded speech segments, comprising:

a construction step of constructing quantization code books using speech segments stored in a speech database;

21 an encoding step of encoding the speech segments stored in the speech database using the quantization code books that were constructed using the speech segments stored in the speech database;

a storage step of storing in the speech segment dictionary, the encoded speech segments that were encoded in said encoding step; and

a decoding step of decoding the encoded speech segments by using the quantization code books constructed in said construction step. - -


Replace claim ⁹~~50~~ as follows:

- - A speech information processing apparatus for generating a speech segment dictionary for holding a plurality of encoded speech segments, comprising:

construction means for constructing quantization code books using one or more speech segments stored in a speech database;

encoding means for encoding the speech segments stored in the speech database using the quantization code books that were constructed using the speech segments stored in the speech database; and

storage means for storing in the speech segment dictionary, the encoded speech segments that were encoded by said encoding means. - -

 ¹⁰
Replace claim 51 as follows:

- - A speech information processing apparatus for synthesizing speech by using a speech segment dictionary for holding a plurality of encoded speech segments, comprising:

construction means for constructing quantization code books using speech segments stored in a speech database;

encoding means for encoding the speech segments stored in the speech database using the quantization code books that were constructed using the speech segments stored in the speech database; and

storage means for storing in the speech segment dictionary, the encoded speech segments that were encoded by said encoding means; and

decoding means for decoding the encoded speech segments by using the quantization code books constructed by said construction means. - -

END OF EXAMINER'S AMENDMENT

78

F

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01 April 2004 has been entered.

Response to Amendment

3. The amendment filed 01 April 2004 has been applied with the effect that the claims were changed as indicated and examined on the merits.

Allowable Subject Matter

4. Claims 2, 3, 5, 11, 15, 17, 23 and 49-51 are allowed.

5. The following is an examiner's statement of reasons for allowance:

- The present invention is directed to *building and using a dictionary for multi-mode speech coding*.



Art Unit: 2654

- Regarding claims 2 and 49, while Akamine et al (U.S. Patent 5,671,327) considers distortion against calculated values, the features of *storing the encoded speech segment ... where the encoding distortion produced at a 1st encoding step is less than a predetermined value; and a 2nd encoding step of encoding the speech segment, in a case where the encoding distortion produced at the 1st encoding step is not less than the predetermined value* were neither found to be anticipated nor were they found in obvious combination in the prior art of reference.
- Claims 3, 15, 50 and 51 identify the uniquely distinct step of "encoding a speech segment stored in the speech database using the quantization code books constructed using the speech segments stored in the speech database in the construction step".

The closest prior art of Gasper et al, Swaminathan et al & Holzrichter et al disclose generating a speech segment directors but fail to anticipate or render the above underlined limitations obvious.

- Regarding claims 5, 11, 17 & 23, where multi-code methods do conventionally support a plurality of alternative encoding schemes, the feature of claims 5, 11, 17 & 23 that simultaneously incorporates all of the *mu-law scheme, scalar quantization, and linear predictive coding encoding methods* is neither anticipated nor was it found in obvious combination in the prior art of record.



Art Unit: 2654

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Daniel A. Nolan at telephone (703) 305-1368 whose normal business hours are Mon, Tue, Thu & Fri, from 7 AM to 5 PM.

If attempts to contact the examiner by telephone are unsuccessful, supervisor Richemond Dorvil can be reached at (703)305-9645.

The fax phone number for Technology Center 2600 is (703)872-9314. Label informal and draft communications as "DRAFT" or "PROPOSED", & designate formal communications as "EXPEDITED PROCEDURE". Formal response to this action may be faxed according to the above instructions,

or mailed to: Mail Stop AF (or CPA, etc. – see Official Gazette, 04 November 2003)
P.O. Box 1450
Alexandria, VA 22313-1450

or hand-deliver to: Crystal Park 2,
2121 Crystal Drive, Arlington, VA,
Sixth Floor (Receptionist).



Application/Control Number: 09/630,356

Page 8

Art Unit: 2654

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 Customer Service Office at telephone number (703) 306-0377.

Daniel A. Nolan
Examiner
Art Unit 2654

DAN/d
May 14, 2004


RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER

F